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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/781,975	02/14/2001	Samuel Dacke Harkness IV	146712001300	9533

25227 7590 11/17/2003
MORRISON & FOERSTER LLP
1650 TYSONS BOULEVARD
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MCLEAN, VA 22102

EXAMINER

UHLIR, NIKOLAS J

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 11/17/2003

18

Please find below and/or attached an Office communication concerning this application or proceeding.

CLO 18

Advisory Action

Application No.

09/781,975

Applicant(s)

HARKNESS ET AL.

Examiner

Nikolas J. Uhler

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--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 13 November 2003 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
 b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
 ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
 2. ☐ The proposed amendment(s) will not be entered because:
 (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
 (b) ☐ they raise the issue of new matter (see Note below);
 (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
 (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____

3. ☐ Applicant's reply has overcome the following rejection(s): _____.
 4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
 5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: see attached sheet.
 6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
 7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: _____

Claim(s) objected to: _____

Claim(s) rejected: 1-2, 6-12, 16-20

Claim(s) withdrawn from consideration: _____

8. ☐ The drawing correction filed on _____ is a) ☐ approved or b) ☐ disapproved by the Examiner.
 9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____.
 10. ☒ Other: See Interview Summary is Attached

D. S. NAKARANI
PRIMARY EXAMINER

Active
SPG

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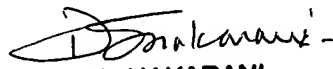
Continuation of Box 5(c): The examiner has considered the applicant's arguments in the request for reconsideration but does not find the arguments persuasive.

The crux of the applicants argument is related to unexpected results. In particular, the applicant has presented a reference by Dieter Weller, obtained from the internet, which the applicant has utilized in an effort to clarify the state of the art of magnetic recording media at the time the instant invention was made. With respect to grain size distribution, the Weller article states that in order to reach terabyte/in² perpendicular recording density, the grain size distribution (sigma/mean) needs to be reduced to $\leq 10\%$, and that current media at the time have a sigma/mean of $\sim 25\%$. The applicant asserts that the instant invention has started to bridge the gap between 25% and 10%, as the sigma/mean of an embodiment of the instant invention is shown to be 23% in table 1 of the instant specification.

The examiner does not refute that the applicant may have obtained this data for at least some embodiments of the instant invention. However, the examiner maintains that the applicant's showing is unpersuasive in its current form. While the examiner acknowledges that the data in table one on its face seems to imply that reduce sigma/mean is obtained with *any* Cr-X oxidized seedlayer/un-oxidized Cr underlayer combination, there is strong evidence in the prior art that the mean grain size of a Cr alloy underlayer is reduced in proportion to the amount of oxygen incorporated into the layer. This is clearly shown by the Suzuki reference that is cited in prior office actions, which establishes that as oxygen concentration increases, mean grain size decreases. Thus, as the amount of oxygen in the oxidized seedlayer impacts mean grain size, and

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the sigma/mean of a layer depends on the mean grain size of the layer, it is evident that the amount oxygen in an oxidized Cr seedlayer impacts the sigma/mean of that layer. Thus, the examiner has substantial difficulty believing that the applicant's results in table 1 are valid for a seedlayer containing any arbitrary amount of oxygen in light of these facts. The substantive issue with the applicants showing is that it is vague with respect to what is actually required to obtain the asserted benefit. If read literally and without any knowledge of the prior art, table one would indicate that a Cr-X seedlayer, containing 1 atom of oxygen and present below a Cr layer containing 0 atoms of oxygen, reduces the grain size distribution (sigma/mean) of a recording medium to 23%. In light of the information known in the prior art at the time the invention was made however, it is *clear* that the amount of oxygen has an impact on grain size and thus grain size distribution. The instant independent claims require no specific oxygen content or grain size distribution. Thus, there is no basis in the claims that limits the scope of the claim to media exhibiting the asserted result. Absent a showing that the results in claim 1 are valid for media utilizing an oxidized seedlayer containing any arbitrary amount (i.e. 1 atom) of oxygen, the examiner does not find the showing to be persuasive. In other words, the examiner strongly feels that the applicant's claims are not commensurate in scope with the asserted showing.


D. S. NAKARANI
PRIMARY EXAMINER Acting SPE